

CHAPTER III

Guidelines for Preparing Project Narrative

A. Gate 1 Project Narrative Content

Executive Summary (no more than two pages)

A one- or two-page Executive Summary briefly highlighting the major sections of the Project Narrative must be submitted at the time of the initial proposal submission (Gate 1). This Executive Summary is not included in the page count for the proposal. The Executive Summary should address the ATP selection criteria as follows:

- a. Scientific and Technological Merit
 - (1) Technical Innovation
 - (2) High Technical Risk With Evidence of Scientific Feasibility
 - (3) Detailed Technical Plan
- b. Potential for Broad-Based Economic Benefits
 - (1) National Economic Benefits
 - (2) Need for ATP Funding
 - (3) Pathway to Economic Benefits

In the Executive Summary, explicitly link the technical objectives, the eventual planned commercial application of the technology, and the expected economic benefits so that the path from the technical objectives to the benefits is clear.

Scientific and Technological Merit Project Narrative

(no more than 20 pages for a single company and no more than 30 pages for a joint venture)

The Project Narrative includes the detailed information that must be provided with the Gate 1 proposal to address the scientific and technological merit selection criterion. The scientific and technological merit portion of the Project Narrative may not exceed 20 pages for a single company and 30 pages for a joint venture, out of the total page count of 24 and 35 pages, respectively (4 pages out of the 24-page limit for the single-company proposal and 5 pages out of the 35-page limit for the joint venture are to be used to address the preliminary information in response to the potential for broad-based economic benefits selection criterion). The Gate 1 submission should also include a list of bibliographic technical references. This list is not included in the page limit.

The scientific and technological merit selection criterion includes the innovations in the technical development, technical risk with evidence of scientific feasibility, and the quality of the detailed technical plan. All three items must be addressed successfully for a proposal to pass Gate 1. The proposal must clearly state or clearly describe how the proposed technology and/or the technical approach are highly innovative. The proposal must also clearly state or clearly describe how the research is challenging, with high technical risk, and what the sound scientific rationale



Guidelines for Preparing Project Narrative

is for the proposed approach to overcome these risks. The research must be aimed at overcoming an important problem(s) or exploiting a promising opportunity. The research must have strong potential for advancing the state of the art and contributing significantly to the U.S. scientific and technical knowledge base. The project team must be qualified to conduct the R&D and must have access to the necessary research facilities.

The following is a detailed discussion of the key information needed in the Project Narrative for assessing the quality of the proposal against this selection criterion. While the format below is not required, to be competitive a proposal must address all of these key points. ATP reviewers are technically knowledgeable about the topics discussed in the proposal; however, the reviewers will only have what is written in the proposal to evaluate the project against the ATP criteria.

Proposals must include significant proprietary information to be competitive. ATP takes protection of that proprietary information very seriously. ATP screens reviewers for conflicts of interest and requires reviewers to sign nondisclosure agreements. In addition, proposals are securely stored and tracked to further ensure that the proprietary nature of the proposal is protected.

Following the Executive Summary, to start the Gate 1 narrative portion, it is good practice to include an introduction describing the overall problem and why others have not solved it. This overview can describe the technical problem faced by industry and the context for the innovation and/or the technical barriers that limit economic growth in the industry and prevent the problem from being solved.

Diagrams, flowcharts, and tabulated summaries are good tools to help communicate the innovation, risk, and technical plan for the proposed project. All diagrams, flowcharts, pictures, tables, and other illustrations **are** included in the page count.

NOTE: ATP does not pay for product development. Product development includes incremental or routine enhancement of existing products or

processes. Product development also includes straightforward applications of existing technology or technologies in new prototypes or products.

The following information is necessary for evaluation against the criterion:

Scientific and Technological Merit Criterion:

Technical Innovation—The proposal must convince expert reviewers that the project involves a high level of technical innovation. ATP defines innovation as providing a unique approach to developing new-to-the-world prototypes of products or processes. The proposed innovation may relate to the objectives of the research or to the approach to achieving those objectives, or both; innovation may be in what is to be accomplished as well as in how it will be accomplished. The innovative approach can be completely novel or a novel integration of existing or new technologies. ATP looks for technical innovation that is revolutionary, not an incremental or evolutionary next step for existing technology. This innovation should be disruptive (revolutionary) with respect to the state of the art.

- **Technical Barriers**—Describe the technical barriers that prevent technical improvement in industry in this area.
- **Proposed Solution/Technical Objectives**—Describe the proposed solution to the identified problem and describe why it is innovative. For projects involving the development of a prototype, provide schematics of the envisioned system, system diagrams, or system architecture as appropriate. Make clear how the proposed innovative solution will overcome the technical barriers.
- **Technical Targets**—Identify the measurable success criteria for the proposed technology development efforts. Provide quantifiable measures. These measures should be explained.
- **Key Factors Chart**—Summarize in a table the key technical factors (or variables) associated with the approach, the proposed quantitative

Table 1: Key Factors (Example)

Key Factors	Proposed Technical Targets	Requirement for Commercial Success	Current Practice	Associated Technical Barriers	Innovative Technical Approaches
Oxygen permeability of carbon nanotubes	10 ⁻⁵ mL per m ² day at 25 o ^c , 1 atm, & 90% RH	10 ⁻² mL per m ² day at 25 o ^c , 1 atm & 90% RH	10 ⁻¹ mL per m ² day at 25 o ^c , 1 atm, & 90% RH	Loss of oxygen barrier properties at high humidity	New composite materials
Percent of speech recognized	99.9%	99%	70%	Range of accents	New approach to recognizing inflection
Noninvasive glucose sensor	50% improvement in accuracy and precision over current method metrics	25% improvement in accuracy and precision over current methods	Invasive in vivo methods	Calibration and reliability	Noninvasive in vivo device

targets for those factors, the minimum requirements for commercial success for those factors, current practice, associated technical barriers to reaching the targets, and the innovative approach (see Table 1).

- **Technical Competitors**—Discuss why the proposed solution has not previously been attempted or accomplished. Show how the proposed solution is particularly innovative relative to alternative approaches being pursued by foreign and domestic competitors or elsewhere within the proposing team’s organization(s). Cite relevant patents and the open literature to support this discussion. Ignoring state-of-the-art knowledge and ongoing work by others and within the proposing team’s organization(s) may lead reviewers to assume that the proposer is not aware of existing work. Identifying existing efforts helps to ensure that the proposed work does not duplicate these efforts. Discuss the expected state of the proposed technology at the end of the ATP project relative to competitors’ expected capabilities at that time, if the project is successful.

- **Impact on the U.S. Knowledge Base/ Technical Leverage**—Successfully accomplishing the proposed research and surmounting technical challenges should result in a dramatic change in the future direction of the technology. This “path change” should be a major leap forward, advancing the state of the art. Summarize the impact, or technical leverage, of successfully accomplishing the proposed research and overcoming the high technical risks. Technical leverage is the possibility of using the research results beyond the initial applications proposed. Describe the potential usefulness and benefits of partial results or knowledge gained from a project even if it is not completely successful.

Scientific and Technological Merit Criterion: High Technical Risk With Evidence of Scientific Feasibility—Successful proposals must effectively balance high technical risk with evidence of scientific and/or engineering feasibility for overcoming that risk. ATP funds projects that seek to overcome extremely difficult technical challenges that make success uncertain. Many proposals are



not competitive because the proposal does not discuss the specific technical risks embodied in the proposed research in sufficient detail or the proposal cites only routine risks common to all technology development efforts in a field.

■ **Technical Risk**—Describe the technical challenges and assess the probability of success of the project approach(es). Characterize the major technical tasks, including those performed by subcontractors, with respect to technical risk. Identify and analyze the high-risk tasks. Risk may be high in the development of one or more single innovations, the integration of disparate technologies, or both. Surmounting the technical challenges should result in a dramatic change in the future direction of the technology. The technical risks cited should be recognizable and credible to experts in the field. Note that ATP does not consider marketplace acceptance to be a technical risk.

■ **Feasibility**—Demonstrate that the technical approach is feasible by documenting that there is a sound scientific and/or engineering foundation or rationale for the proposed approach. This foundation comes from early research evidence such as a proof of concept, experimentation, or sound theoretical thinking. Cite relevant patents, the open literature, and experimental results as appropriate to support the discussion. ATP does not fund projects that are predominantly basic discovery science. In addition, ATP does not fund projects that violate sound scientific principles (e.g., the second law of thermodynamics).

Scientific and Technological Merit Criterion:

Detailed Technical Plan—The technical plan must explain how the technical objectives will be reached. It should address all the anticipated technical problems and describe how these problems will be handled. ATP has only the written technical plan to evaluate how the proposed results will be achieved. Many proposals are not competitive because, although the meritorious technical goals are emphasized, the proposal provides only a vague plan on how to reach those goals. It is not adequate merely to describe the established

technical barriers and provide only an overview of the research path using standard scientific or engineering methods. ATP requires a more detailed technical plan to evaluate how the goals will be met. The project proposal will provide the basis for project management should an award be issued. For a proposal to be competitive, ATP must be able to track the project from initial idea to the end of the project results. A detailed technical plan is, therefore, critical for effective project management and good communications between the ATP Project Manager and the project Principal Investigator.

■ **Technical Approach**—For a proposal to be competitive, the elements of the technical plan must fit together in a reasonable way to instill confidence that the proposing team can implement the proposed approach. The following plan elements are needed:

- **Multi-Disciplinary Knowledge**—Most projects require a multi-disciplinary approach to overcome technical barriers. Discuss how the cross-disciplinary knowledge and capabilities required for the project's success will be available when needed. Describe how the views and constraints of suppliers, considerations of manufacturability, requirements of customers, regulatory concerns, safety issues, environmental impacts, and so forth will be taken into account in the technical plan. Describe how the necessary scientific, engineering, and business knowledge will be available when needed.
- **Tasks and Subtasks**—Discuss how the work will be organized into tasks and subtasks. Provide clear descriptions. Include tasks and subtasks performed by subcontractors and clearly identify these subcontractors if known at the time of proposal submission. If the subcontractor is not known, provide the qualifications needed to perform the proposed subcontract work. Explain the technical rationale for the major tasks. Clearly link tasks to the budget and to the subcontracts (where

ATP Proposal Preparation Kit

appropriate). Highlight major risks and innovations inherent in specific tasks and the strategies for managing unexpected results.

- **Interrelationship of Tasks**—Discuss how the tasks link to one another, which tasks depend on others, which tasks are sequential, and which tasks would be done in parallel.
- **Metrics**—Provide clear metrics for measuring the project's progress toward the overall technical goals. These metrics should be **quantitative and objective** and should relate to the project's technical objectives, targets, and success criteria.
- **Milestones**—Provide appropriate interim and final milestones for each year of the technical plan and tie these to the metrics. Milestones are critical for tracking progress made in the project. Include a discussion of the testing strategy for critical milestones. An example showing the linkage between milestones, metrics, and timing is provided in **Table 2**.
- **Contingency Plans/Alternate Approaches**—If appropriate, discuss any contingency plans or alternative technical approaches for carrying out key portions of the technical work. Tie these approaches to the decision-point strategy that follows. Highlight the level of risk and innovation inherent in the alternatives and

compare them to the preferred approach. ATP may not accept alternatives that significantly change the technical risk or level of innovation.

- **Decision-Point Strategy**—Provide go-no-go decision points for the project. These can be discussed in specific tasks or separately relative to several tasks. Decision points describe conditions, in terms of milestones and metrics, that define when it is clear that a project or line of research has succeeded or failed. For example, the technical barrier identified as a risk was overcome or could not be overcome using the proposed approach. A decision point could involve a decision to use an alternative approach or to stop the project. Projects that pursue more than one technical approach in parallel must discuss how the decision to select among those approaches will be made and when it will be made in the decision-point strategy. A good decision-point strategy identifies the first go/no-go decision points within the first year of a project. Risks, milestones, metrics, and decision points must be linked in the decision-point strategy. A decision-point tree or critical-path chart may be very helpful to communicate this information. One example of a decision-point strategy is given on page 26. There are many other ways to effectively portray the information.

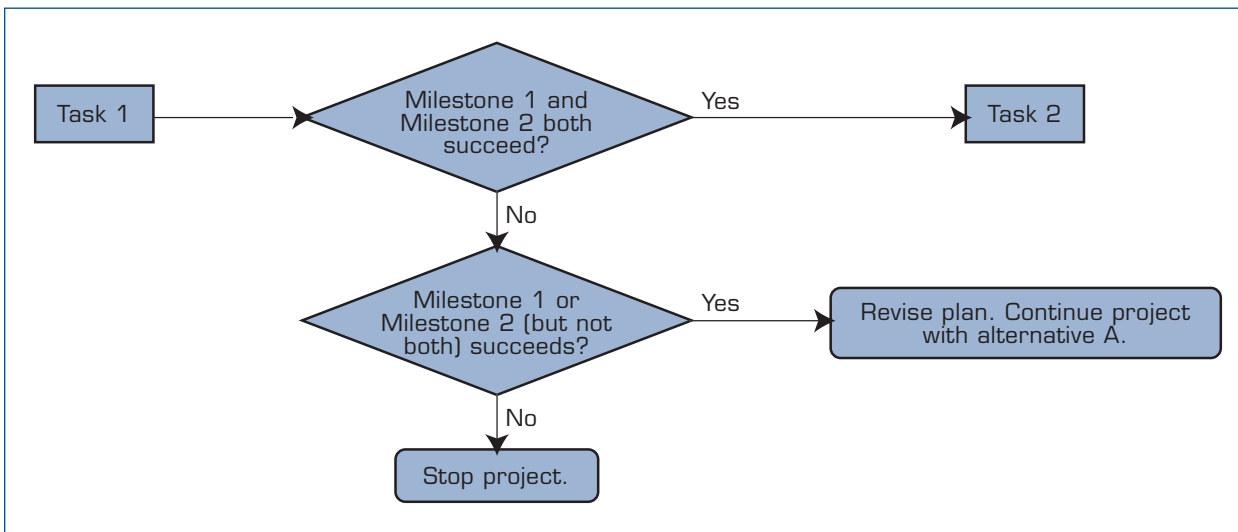
Table 2: Key Milestone (Example)

Milestone	Timing	Metric	Minimum Value for Successful Result	Test Method	Decision
Handwriting recognition	End year 1	Percent of written input recognized	80%	Use of dataset: NIST hand-printed forms and characters	Continue with approach or switch to alternative



Guidelines for Preparing Project Narrative

Decision-Point Strategy (Example)



- **Gantt Chart**—Include a Gantt chart showing tasks, subtasks, timing by quarter year, performers, and milestones. Performers are key personnel leading tasks and subtasks, and can be subcontractors, joint venture partners, or other team members. Indicate who will lead which task (see **Table 3**). In addition to the Gantt chart, the project tasks must be described in narrative form. It must be clear how the goals of the project will be achieved by those tasks.
- **Technical Experience and Qualifications**—Provide information about the key technical team members. Describe the quality and appropriateness of the technical staff assigned to the project, and the amount of time each individual will allocate to the project. Briefly highlight the education and experience of key personnel, including subcontractors. If a project proceeds to Gate 3, ATP may request two-page resumes or curriculum vitae (CV) from each key team member. If key staff will be hired, describe the qualifications needed for key positions not yet filled and the timeline for hiring these staff.
- **Adequacy of Facilities, Equipment, and Resources**—Discuss the research facilities and specialized equipment required. Identify what facilities, equipment, and resources already exist for use; what will be obtained through subcontracting; and what is needed even though sources are not yet identified. Provide the timeline for obtaining needed facilities, equipment, and resources.
- **Subcontracts**—Many projects include subcontracts to obtain key expertise, access to existing facilities, or specialized goods and services. Discuss what each subcontractor brings to the project. Clearly identify what each subcontractor will do and why that subcontractor was chosen. Discuss the relationship of the work to be done by the subcontractor to the technical plan. Discuss how subcontractor progress will be monitored and redirected as appropriate. Subcontracts can be used for carrying out research tasks or for the purchase of customized goods and services necessary for project participants to carry out their research tasks. ATP expects, however, that the proposer will direct and carry out key high-risk tasks. Projects with a significant portion of the work allocated to a subcontractor

Table 3: Gantt Chart (Example)

Tasks	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Performers	Major Milestone and Metric
1.0 Task	----	----	----	----	----								Smith	
1.1 Subtask	----	M1											Subcontractor A	M1: Measure X must be greater than Y
1.2 Subtask		----	M2										Jones	M2: Material property P must be at least Z
1.3 Subtask		----	----	M3									Ahmed	M3: Test specific feature using described test plan
1.4 Subtask				----	M4								Wang	M4: Performance metric must exceed threshold
2.0 Task				----	----	----	----						Wilson	
2.1 Subtask				----	M5								Todd	M5: Component must be assembled
2.2 Subtask				----	M6								Jones	M6: Component must be assembled
2.3 Subtask						----	M7						Taylor	M7: Complete initial prototype
3.0 Task							----	----	----	----	----	----	Wang	
3.1 Subtask							----	---	----	M8			Ahmed	M8: Test system on specified dataset
3.2 Subtask									----	----	----	M9	Subcontractor B	M9: Complete final test scenario



Guidelines for Preparing Project Narrative

may appear to be a “pass through” of funds from the proposer to subcontractors (who are not permitted to cost share) and will likely not be competitive. In system integration projects, the proposer should make clear how the proposer is involved in integrating the technologies and taking the system forward. This section should address how intellectual property issues will be handled to assure the reviewers that the proposer will be able to commercialize the system. Subcontractors can be other companies, universities, national laboratories, nonprofit organizations, or consultants. In the discussion, state the type of institution and work involved for each subcontract.

- **R&D Activities at Non-U.S. Sites**—ATP strongly discourages use of non-U.S. sites for research and development activities. In the event that the project includes work performed at a non-U.S. site, the proposer will need to provide **Exhibit 12, R&D Work Performed Outside the United States by the Recipient or Subcontractor Questionnaire**. If a portion of the project can only be carried out at a non-U.S. site because of the site’s unique capabilities, explain the technical work to be done, the relationship of this work to the overall project, the cost of this work, and the unique capabilities associated with the non-U.S. site. Explain why equivalent work cannot be performed within the United States.

Potential for Broad-Based Economic Benefits—Preliminary Information (no more than four pages for a single company and no more than five pages for a joint venture)

The Gate 1 submission must fully address the scientific and technological merit selection criterion to satisfy the Gate 1 evaluation process. In addition, the Gate 1 submission must provide preliminary information addressing the potential for broad-based economic benefits criterion. Single companies are limited to four pages and joint ventures are limited to five pages for this additional information.

If ATP determines that the Gate 1 proposal has high scientific and technological merit, the proposal will advance to Gate 2. ATP will notify the proposer and ask for more detailed information to address the potential for broad-based economic benefits criterion within a prescribed time frame. Since the turnaround time is limited for the Gate 2 submission, ATP strongly encourages proposers to begin preparing this information early to ensure that sufficient time is allocated to finalize it and obtain required approval(s) within the proposing organization(s).

The proposal must clearly link the project’s technical targets, commercial pathway, and economic benefits.

The Gate 1 submission should provide a brief overview of the following information required to address the potential for broad-based economic benefits criterion:

Potential for Broad-Based Economic Benefits: National Economic Benefits

- Explain the business opportunity and identify the future users of the technology.
- Describe the economic significance of the project.
- Describe any additional benefits such as the following: quality-of-life benefits, environmental benefits, health benefits, improved security, or energy savings.
- Quantify the magnitude of the improvement over current technology. Discuss how successful commercialization will benefit the proposing company, customers, competitors, industry, and others.

Potential for Broad-Based Economic Benefits: Need for ATP Funding

- Describe the efforts that have been made to obtain funding for this project from other

ATP Proposal Preparation Kit

sources (e.g., internal, private, or other federal agencies) and the results of those efforts.

- Describe how ATP funding would change the scope, scale, and/or timing of the research effort.

Potential for Broad-Based Economic Benefits: Pathway to Economic Benefits

- Describe the initial planned product incorporating the technology and the commercialization plan for bringing the technology into the marketplace.
- Describe how the proposing organization(s) will ensure that the technology will be broadly diffused.
- Explain the planned organizational structure for the project.
- Describe the experience and qualifications of the business staff who will work toward achieving the commercialization goals. Note that salaries for the project's business staff cannot be part of the project budget, as ATP cannot fund business development, commercialization, or product development.

B. Gate 2 Project Narrative Content

Potential for Broad-Based Economic Benefits

(no more than 15 pages for a single company and no more than 20 pages for a joint venture)

The Gate 1 proposal addressed the scientific and technological merit selection criterion to demonstrate the quality of the proposed research. The Gate 2 proposal addresses the potential for the broad-based economic benefits selection criterion to demonstrate the benefit for the nation beyond the returns to the proposer.

Detailed information must be provided with the Gate 2 submission to address this selection criterion. The detailed information to address the criterion must not exceed 15 pages for a single-company project and 20 pages for a joint venture project. In addition, the Gate 2 submission should also include letters of support, letters of commitment, and letters of nonfinancial support as appropriate. (This information is not included in the page count.) The Gate 2 submission should also include a list of bibliographic references supporting business assertions or data. This list is not counted in the page limit.

The mission of ATP is to fund research projects with strong potential for delivering large economic benefits for the nation, beyond the returns to the proposer. While ATP funds cannot be used for product development or for other commercialization activities, proposals must provide a commercialization plan to show how the research will lead to economic growth. ATP determines the potential for broad-based economic benefits by assessing the proposal's information about the potential national economic benefits, the project's need for ATP funding, and the proposed pathway to achieving the economic benefits.

The proposal must make a convincing case that large national economic benefits will result from successful deployment of the technology, including benefits to the proposer and, more important, benefits to other organizations, users, industries, and the general public. The proposal must also provide evidence that the project needs ATP funding and that without ATP funding these benefits would not occur in the same scale, scope, or timing. In addition, the proposal must identify a commercialization pathway that will use existing markets or develop new markets to achieve the economic benefits. The plans for commercialization and diffusion of the technology provide the critical link between the technical plan and the large economic benefits for the nation that would be enabled by the proposed project.



Guidelines for Preparing Project Narrative

The following key information is needed in the Gate 2 submission to assess the project against the potential for the broad-based economic benefits selection criterion. Although ATP business reviewers are experts familiar with related technologies and industries, the reviewers will only have what is written in the proposal to evaluate the project. Competitive proposals must include significant proprietary information. ATP takes protection of that proprietary information very seriously. ATP screens reviewers for conflicts of interest and requires reviewers to sign nondisclosure agreements. In addition, proposals are securely stored and tracked to further ensure that the proprietary information is protected.

Potential for Broad-Based Economic Benefits

Criterion: National Economic Benefits—ATP seeks to fund broadly enabling technologies that are path-breaking in opening up possibilities for new markets and new industries, infrastructural in addressing industrywide problems, or multi-use in having applications across a number of industries. It is important that the proposal show how the proposed technology fits one or more of these categories. A strong case for government use of taxpayer funds for the proposed research must be made by demonstrating large benefits for the nation beyond those received by the proposing organization(s).

- **Business Opportunity**—Explain the business opportunity for the technology and how the technology addresses a problem of economic importance to the nation (e.g., why the technology will remove some major impasse that has been plaguing an industry).
- **Markets for the Technology**—Discuss the users of the technology, the expected size of the markets for the technology in the immediate future and the more distant future, and the growth trends for those markets. When describing market sizes, be sure to discuss the market for this technology specifically, not

just the size of the industry or broader product markets. For technologies that could enable new industries and new markets, discuss the expected timeline and growth of these emerging markets and industries and what initial markets might exist. The federal government should not be the primary, or only, buyer of the technology but could be one customer or user.

- **Source of Benefits**—Show how the proposing company or joint venture will benefit from the proposed technology. Show how others, including potential customers, competitors, suppliers, and the general public, will benefit. Describe any performance and quality gains and cost savings to the proposing company or joint venture and to others. Describe any health, safety, or environmental benefits. Describe any potential for synergies with what others are doing or with market directions.
- **Magnitude of Impact**—Quantify the magnitude of the advantage enabled by this project in terms of its economic and business benefit. For example, benefits could be lower cost per unit to manufacture, improved fuel efficiency, or reduced time to produce software. Document societal and quality-of-life benefits and quantify these, if possible. For example, a new treatment for a disease can save costs through shorter hospital stays and quicker returns to work, but it can also provide quality-of-life benefits in less painful side effects than other treatments. Be as quantitative as possible.

Be clear in the discussion about the marginal difference, or “added value,” that ATP funding makes in realizing the economic benefits of the proposed project. In general, ATP cares about the specific competitive advantage of the technology and the spectrum and number of users who will benefit in addition to well-supported projections of impact.

Potential for Broad-Based Economic Benefits

Criterion: Need for ATP Funding—Explain why the project needs taxpayer funds and why full



ATP Proposal Preparation Kit

private funding is not available. Tax dollars are used for the benefit of the nation and only secondarily for the benefit of the individual company. An overview of this section should be provided in item 15 of Form NIST-1262 or Form NIST-1263 accompanying the proposal. Be sure that the answer provided in item 15 is consistent with the discussion in the Gate 2 proposal (but do not just duplicate the information given in item 15). Include at the end of the proposal any letters corroborating the proposer's efforts to secure other funding.

- **Private Sources**—Document past efforts to secure private funding. Describe attempts to obtain external private funding (e.g., venture capital, angel investment). Describe the decisionmaking process and priorities for allocating internal research funds. Provide the reason those efforts were not successful.
- **Government Sources**—Describe any other government agencies that are funding this area of technology, if known. Describe any past or current submissions to other federal agencies and the outcome or current status of those submissions. Discuss why other government sources are not available and/or why other federal funding was not sought for this project.
- **Industry Partners**—Describe any efforts made to seek full or partial funding from industry partners. Be specific in the response including specific companies that were approached and the reasons for their rejection. If industry partners were not sought, explain why.
- **Difference in the Project Due to ATP Funding**—Describe the difference ATP funding will make to the proposed research. Be specific in terms of scale, scope, and timing of the project.
- **Difference in the Economic Benefits Due to ATP Funding**—Describe how the difference in the proposed research discussed above would impact projected economic benefits. This discussion should not repeat information

provided in the economic benefits section but should give supporting information as to how the changes in the research discussed above will impact the benefits stream. For example, delaying the research results could cause the project to miss a market window, or reducing the scope of the project could eliminate significant features of the technology, thereby reducing its benefit to customers.

Potential for Broad-Based Economic Benefits Criterion: Pathway to Economic Benefits

ATP expects the proposing organizations to take the lead in commercializing the technology. The proposal needs to provide a credible, complete pathway to the benefits described and must detail how the technology will be put into use.

- **Commercialization Plan**—Discuss how the technology will enter the market. ATP anticipates that the pathway to economic benefits will generally begin by entry of new/improved products, processes, and services into the marketplace. Whether a large or small company, the proposer must address commercialization, including the plan to achieve market success. For successful proposals, commercialization is planned at the outset, and business staff are involved at the proposal writing stage. For large companies, indicating that the technology will be passed to an internal sales and marketing division or providing a generic plan is not enough. The proposal must document the specific plan to commercialize the technology successfully. For small companies, include plans to build the necessary business infrastructure and alliances to be successful. Understand that a fantastic technology may capture the imagination but not necessarily the market. History has many examples of great technology losing out to an inferior competitor because of marketing failure. Path-breaking technologies may, in the long run, lead to the development of new markets and industries; however, the proposer will need to survive in the short run to achieve this long-term vision. Be sure to discuss both long-term



Guidelines for Preparing Project Narrative

market development and more immediate markets that will help bring in revenues to sustain and grow the company.

- **Strategic Vision**—Describe the company's strategic vision. Indicate where the company plans to be in 5 years. The commercialization plan should fit the company and its expected resources.
- **Products and Market**—Demonstrate an understanding of the market opportunity. Identify the planned initial products, processes, or services and how these incorporate the technology. Provide the business advantage of the proposed technical approach over other competitors. Discuss potential competitors, the key drivers and players for this market, and what technology they bring to the problem. Assess strengths, weaknesses, and opportunities from a competitive standpoint. Describe company strengths for capitalizing on the advantages of the proposed new technology and overcoming challenges in confronting the current ways of doing things.
- **Window of Opportunity**—Identify the window of opportunity for the planned product. Identify when the planned product will enter the market. Indicate how long a competitive advantage can be maintained as a result of successfully developing the proposed technology. Explain to what extent this is a leap beyond what competitors will have.
- **Strategy for Bringing the Product to Market**—Describe the company's strategy for bringing the product into the market. Be as specific as possible. Some examples might be licensing to pharmaceutical companies, direct sales, or contract manufacturing.
- **Strategic Alliances and Early Adopters**—Discuss the role of strategic alliances and

marketing arrangements in the commercialization plan. Identify the types of partners needed for commercializing the product. If any of these partnerships are already in place, provide letters of support for the new technology at the end of the Gate 2 proposal. For partnerships that are not yet in place, identify specific needs and the timing necessary for those arrangements for the commercialization to be successful. Identify potential partners, if known.

- **Pricing and Sales**—Describe the pricing strategy for the planned product and the rationale for choosing that strategy. Indicate the magnitude of sales anticipated and the timing of those sales.
- **Investment Strategy**—Indicate what investment will be needed to commercialize the technology and from where that investment will come.

ATP recognizes that the inability to achieve full technical success, as well as unanticipated developments in fast-moving markets, can change opportunities and alter plans. Discuss the possibility of adjustments to the commercialization plan in response to different or changing conditions. Some path-breaking technologies have the potential to lead to the development of new markets and industries. Companies commercializing these technologies have the added challenge of describing how they will foster the growth of these new markets and industries.

- **Intellectual Property Protection and Broader Diffusion**—Describe how the research results and contributions to the U.S. technology base will diffuse beyond the proposing organization while maintaining ownership of core knowledge needed to commercialize the project's technical results. Discuss the planned use of patents, copyrights, trade secrets, and any other forms of intellectual property protection. Discuss any planned strategy for publishing or



ATP Proposal Preparation Kit

disseminating the technical results. Describe licensing strategies outside the core application areas discussed in the commercialization plan. ATP is interested in these indirect paths as well as the paths to direct customers because they often expand opportunities for intra- as well as interindustry diffusion. ATP encourages the protection of proprietary information to maintain incentives for the commercialization of the technology. ATP also expects that the proposing organization will take specific steps to diffuse the new technology broadly.

- **Company Commitment**—Describe the company's commitment to the ATP project. This commitment includes the resources to be brought to the ATP project: financial, time commitment of key people in the organization, equipment, and dedicated facilities. Commitment can also be demonstrated in the priority this project is given relative to other company activities. Describe the relationship of this project to the company's strategic vision and direction. Provide evidence of commitment from senior management to the project. For single-company projects, a letter of commitment from an authorized senior executive of the company should be included in the letters of support at the end of the Gate 2 proposal. For joint ventures, letters of commitment verifying the availability of cost-sharing funds must be submitted from all participants in the joint venture. If there are commitments from regional, state, or local agencies or private sources of capital to contribute cost-sharing funds, indicate the nature of those arrangements and give evidence of the commitment. NOTE: Subcontractors may not provide cost share.

- **Organizational Structure and Project Management**—Provide evidence of a solid organizational structure that makes sense for the company, project, and management plan. The role of each partner in a joint venture and each subcontractor on the project should be clear. Indicate the reporting relationships and

responsibilities for technical and commercialization activities. Identify known weaknesses in organizational structure and how they will be overcome. Planning a complex joint venture or a single-company project will likely involve collaborative activities and relationships with other organizations.

- **Business Experience and Qualifications**—Describe the business staff who will be working on the commercialization activities for the technology. While ATP funds cannot be used for product development and other commercial activities, ATP funding decisions are based in part on a consideration of the opportunities for commercial success. Indicate the amount of time each individual on the business staff will allocate to the project; however, time spent on commercialization activities may not be included in the budget. Briefly highlight the education and experience of key staff. Discuss relevant past commercialization performance of the company and/or key staff and describe other unique capabilities and experience. If the proposal proceeds to Gate 3, the proposer may be asked to supply two-page resumes or CVs for the key business staff.
- **Organizational Information**—ATP needs to know about the current status of the companies involved in a project it might fund. Provide information about how the proposing organization(s) is organized, financial information, past experience, and related government work. Should the proposal proceed to Gate 3, more information will be required.
 - **Date and State of Incorporation**—Provide the date of incorporation and the state in which the company is incorporated. For startup companies, this could be information for the planned incorporation.
 - **Previous Federal Awards**—Provide a list of all previous federal R&D contracts, grants, and other awards for the previous 5 years and all pending federal awards. For example, provide a list of the Small



Guidelines for Preparing Project Narrative

Business Innovative Research (SBIR) grants received for the previous 5 years. Include the name of the project, the funding agency/organization, the principal investigator, and the federal government contact's name and phone number.

- **Source of Cost Share**—Describe how the company will obtain the necessary funds to meet the direct cost match, if any, and/or the indirect costs listed in the project budget. Remember that once a cost-share rate is proposed, it cannot be decreased.
- **Financial, Employment, and Ownership Information**—Provide information about the financial status, current employees, and ownership of the proposing single company or for each member of a proposed joint venture. See **Table 4** for the required format. If the proposal is selected as a semifinalist, the proposing single company or, for a joint venture, each joint venture member will be asked to provide financial statements if it is not a public company. Public companies will be asked for copies of their most recent 10-K or annual report.

Table 4: Financial, Employment, and Ownership Information for the Previous 3 Years

Financial Information			
Income	Current Year – 1	Current Year – 2	Current Year – 3
Contract R&D			
Product sales			
Other			
Total income			
Expenditures			
Cost of goods sold			
R&D			
General and administrative			
Total expenditures			
Gross income before taxes			
Net income after taxes			

Table 4 (continued)

Balance Sheet			
Assets	Current Year – 1	Current Year – 2	Current Year – 3
Current assets			
Fixed assets			
Total assets			
Liabilities			
Current liabilities			
Long-term liabilities			
Stockholders equity			
Total liabilities			
Employment Information			
	Number of Employees		
	Current Year – 1	Current Year – 2	Current Year – 3
Full time			
Part time			
Full time R&D			
Part time R&D			
Ownership Structure (for private companies)			
	Percent (Current)	For private companies less than 3 years old	Capitalization (Current)
Founders		Venture capital	\$
Directors		Angel investors	\$
Employees		Individuals	\$
Investors		Other (e.g., state)	\$
Individuals		Self-funded (officers/directors)	\$
ESOP			